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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,497	04/02/2004	Robert J. Poth	MMIC1100-2	2327
38396	7590	10/02/2006	EXAMINER	
JOHN BRUCKNER, P.C. P.O. BOX 490 FLAGSTAFF, AZ 86002			MASINICK, MICHAEL D	
			ART UNIT	PAPER NUMBER
			2125	

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/817,497

Applicant(s)

POTH, ROBERT J.

Examiner

Michael D. Masinick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12, 14-27 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 14-27 and 31-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 12, 14-27, 31-33 are pending in this case. Claims 1-11, 13, 28-30 have been cancelled and claims 31-33 are newly added.

Response to Arguments

1. Applicant's arguments with respect to all pending claims have been considered but are moot in view of the new ground(s) of rejection. All previous art rejections are removed based on the amendments made to the claims. All USC 101/112 rejections have been removed after further consideration. However, it should be noted that the system as claimed contains no mention of function other than the ability to control an HVAC system. So while the art cited in the rejection below is clearly not related to the applicant's invention of using user PIN numbers to bill users for their HVAC usage, it also clearly reads on the claims as they are written.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 12, 16, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 17 states that the second data structure includes a third data structure. This phrasing simply doesn't make sense. Claim 16 sets forth that this data

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structure is a form of a software database, yet claim 12 states that the data structures are “coupled” to physical objects. In neither hardware nor software can a data structure contain another data structure – they would be separate entities. The term EPROM has been removed from the claims and this leads to a great deal of confusion as to whether the applicant is attempting to claim a software based data structure or a hardware memory type data structure. All claims are treated as best understood and as if they are software based database tables.

4. Claim 12 uses the terms “microprocessor” and “microcontroller” interchangeably. One term should be chosen and used throughout the claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 12, 14-20, 27, 31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,289,362 to Liebl et al in view of U.S. Patent No. 5,958,016 to Chang et al.

7. Referring to claim 12, Liebl shows an apparatus monitoring HVAC control functions, comprising a microcontroller; a digital temperature sensor coupled to the microcontroller (Claim 1, part c); a liquid crystal display couple to the microcontroller (Figure 2, 32); a set of cursor

buttons coupled to the microcontroller (Figure 2); a first data structure; and second data structure of historical system usage data (Figure 41 D and associated discussion); an upload capable connector coupled to the microprocessor and the first data structure (“Interface 22 permits downloading of energy rate data for variable spot pricing and uploading of KWH consumption data for billing purposes”); a billing system coupled to the microcontroller (Step 1280); a real time clock coupled to the microcontroller (Claim 1, part d).

8. Liebl does not show that the first data structure contains pin numbers or that there is a backup power supply for the real time clock.

9. U.S. Patent No. 5,958,016 to Chang et al shows an intelligent network service control system with the ability to control a variety of home appliances and systems over the internet or in person. Chang shows the use of PIN numbers for billing purposes:

10. (78) The host also runs the access control routine 528 and associated database 529 for verification and authentication of subscribers seeking access through the firewall 251. The database 529 stores tables of security information relating to each subscriber permitted access through the Internet-Web Link. The access control software 528 uses these data tables to dynamically generate varying requests for user inputs for authentication. For example, on a first attempt, the access control software 528 might generate a data message for transmission back to the terminal 29 prompting the user for name, social security number and PIN number. If the first attempt fails, the access control software 528 generates another message asking for a different combination of user information, such as PIN number and mother's maiden name. The access control software 528 randomly selects and prompts for the different combination of valid subscriber related authentication information. The random variation of requested information increases the difficulty of hacking into the system.

11. Referring to the backup of the real-time clock – it is an industry standard to have a battery backup in a thermostat. This is shown in previously cited U.S. Patent 6,850,252 to

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Hoffberg (noted as a teaching reference) as well as numerous other pieces of prior art already cited.

12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the PIN number database system of Chang to maintain the security of the monitoring thermostat of Liebl because the use of a PIN number system “increases the difficulty of hacking into the system”. It also would have been obvious to one of ordinary skill in the art to use a battery backup for the thermostat of Liebl because this is an industry standard and is available in nearly all home thermostats manufactured today.

13. Referring to claim 14, 16, 18, and 20, Liebl shows wherein the first data structure is a table (Figures 6 and 7).

14. Referring to claim 15, Chang shows wherein the second data structure includes a list of time entries, each time entry associated with a personal identification number (“Subscribers also may review reports of usage of their services or review account or billing statements.” – Paragraph 81). Examiner notes that a “usage report” must contain time entries and if the usage report is associated with a customer and a customer has a PIN number, these time entries must also be associated with a PIN number.

15. Referring to claim 17, Liebl shows a calendar (Figures 6 and 7).

16. Referring to claim 19, Chang shows a list of user types (“different people may have different types or levels of access” – paragraph 84).

17. Referring to claim 27, Liebl shows HVAC equipment coupled to the microcontroller (Figure 1A).

18. Referring to claim 31, Chang shows where the billing computer is a central billing computer (“Examples of network management systems include provisioning systems and usage and/or billing data processing systems. The provisioning systems establish or modify data files or records, in various elements of the traffic network, that control subscribers' services. The data processing systems receive operational data from the elements of the traffic network and process that data, for example to generate subscriber usage reports or bills.”).

19. Referring to claim 33, Liebl shows a bus coupled to the first data structure (Figure 1, part 6).

20. Claims 21-25 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,289,362 to Liebl et al in view of U.S. Patent No. 5,958,016 to Chang et al as shown above and further in view of U.S. Patent No. 6,850,252 to Hoffberg.

21. Liebl in view of Chang does not show a wireless interface, a transceiver, a repeater, or a PDA system.

22. Referring to claims 21 and 24, Hoffberg shows a wireless interface coupled to the upload capable connector (“While wireless data transmission as described above may be used, the preferred method of receiving sensor information is through a serial digital or analog (i.e., 4-20 mA transmitter) data transmission...”).

23. Referring to claim 22, Hoffberg shows a transceiver coupled to the upload capable connector (“An infrared transceiver is mounted on the crush resistant casing and in electronic communication with the processor and memory module to provide for receipt and storage of

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executable applications, and receipt, storage, and transfer of digital information to other electronic devices”).

24. Referring to claim 23, Hoffberg shows a repeater coupled to the transceiver (“Multiple network devices, such as remote access equipment, routers, switches, repeaters and network cards having security functions are configured to contribute to implementation of distributed firewall functions in the network.”).

25. Referring to claim 25, Hoffberg shows a PDA (“In known manner, available personal digital assistants ("PDAs"), available from 3Com (Palm Pilot III), Microsoft Windows CE-based devices, Apple ("Newton" model 100, 110, 120), Tandy, Poquet, Sharp, Casio, AT&T (Eo 440), Hewlett-Packard, etc. may also be employed as a human interface device.”).

26. Referring to claim 32, Hoffberg shows relays (“Therefore, heating ventilation and air conditioning control (HVAC), lighting, appliances, machinery, valves, security sensors, locks, gates, access points, etc., may all be controlled locally or remotely through interfaces of the local system, which may include logic level signals, relays, serial ports, computer networks, fiber optic interfaces, infrared beams, radio frequency signals, transmissions through power lines, standard-type computer network communications (twisted pair, coaxial cable, fiber optic cable), acoustic transmissions and other known techniques. Likewise, inputs from various devices and sensors, such as light or optical, temperature, humidity, moisture, pressure, fluid level, security devices, radio frequency, acoustic, may be received and processed locally or remotely”).

27. Wireless interfaces, transceivers, repeaters, relays, and PDA systems are all well known components in the modern data transfer world. The Hoffberg patent is used to show that these

components are often used in the world of home/business automation and especially with an HVAC controller.

28. It would have been obvious to one of ordinary skill in the art to use wireless transceivers, PDAs, and repeaters to couple to the system of Liebl in view of Chang because these are all standard data transfer systems that are well known to simplify data transfer and the portability thereof.

29. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,289,362 to Liebl et al in view of U.S. Patent No. 5,958,016 to Chang et al and further in view of U.S. Patent No. 5,144,621 to Kinashi et al

30. Liebl in view of Chang does not show the use of an auxiliary memory.

31. Kinashi shows the use of an auxiliary memory for backup purposes (Claim 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an auxiliary memory as a backup to the primary memory in order to ensure that the system had maximum uptime and to prevent hardware failure downtime.

Conclusion

32. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D. Masinick whose telephone number is (571) 272-3746. The examiner can normally be reached on Mon-Fri, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael D Masinick
Examiner
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MDM, Sept 27, 2006